

Network Connection and Energy Radiation through Grassroots Master Teacher Studios——A Case Study Based on Distributed Perspective

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Abstract: Distributed leadership is a collective leadership mode in which multiple members of the organization dynamically share leadership roles according to changes in capability and environment, so as to achieve leadership sharing and leadership energy radiation. Facing the distributed leadership practice of Master Teacher Studio that really occur in education management can make our understanding and description of its original ecological and endogenous construction process more objectively, meticulously and deeply. Through the generation and expansion of the case studio with the characteristics of "grassroots", the empowerment and differentiation of leaders, the stimulation and radiation of members leadership, the generation process of "grassroots" Master Teacher Studio from the initial construction of "uniline" mode to "network" distribution connection, and the radiation process of Master Teacher Studio members' energy from "uninuclear transmission" to "multinuclear connection". Thus, it will realize the organic integration of Western distributed leadership theory and localized grassroots master teachers' studio practice.

Key words: Master Teacher Studio; Distributed leadership; Social network; Energy radiation; Case study

Publication date: February, 2021

Publication online: 28 February, 2021

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1 Introduction

The Master Teacher Studio came into being along with the curriculum reform of basic education in China(abbreviated as the New Curriculum Reform), mainly driven by the education administration department. At the national level, in 1998, the Ministry of Education proposed The Education Promotion Plan of Action for the 21st Century to strengthen the construction of backbone teachers in primary and secondary schools to give full play to the driving and radiation role of backbone teachers in local teaching reform. By 2018, the Ministry of Education jointly five departments issued Action Plan for the Revitalization of Teacher Education(2018-2022), which emphasized that the establishment of Master Teacher Studios in primary and secondary schools to promote the normalization of in-service teachers. Then in 2019, the CPC Central Committee and the State Council on the Opinions of Deepening the Reform of Experimental Teaching to Improve the Quality of Compulsory Education put forward that improve the teaching and research system of the state, province, city, county and school; improve the system of regional teaching and research, school-based teaching and research, online teaching and research, and comprehensive teaching and research, and establish contact point system for teachers and researchers in rural schools. At the local level, in 2000, the Shanghai Luwan District Education Bureau took the lead in issuing Notice on the Establishment of the Studio of Master Teachers and Principals. By 2020, tens of thousands of Master Teacher Studios at all levels have formed across the country. Over

the past 20 years, Master Teacher Studios have gradually become one of the normal modes of teacher cultivating and training in the context of Chinese society, and has gradually become one of the main paradigms to promote the professional development of teachers. The establishment of the Master Teacher Studios has also changed from the behavior of the original single education administrative department to the development pattern which is mainly promoted by the government, with the coexistence of school self-construction and teachers self-organization.

Master Teacher Studios across the country differ in targeting. The establishment of master teacher studio is committed to providing guidance for teachers from the perspective of teacher training goals; or to carrying out effective teaching activities from the goal of teaching activities; or to creating teacher's team and creating discipline education characteristics and brands from the overall goal of education. But on the whole, most of the existing researches have positioned the basic functions created by Master Teacher Studios to promote the professional development of teachers, and explore the overall development model of Master Teacher Studios from the perspective of professional community, and share the experience of Master Teacher Studios in more developed areas with basic education, but the research on underdeveloped areas is relatively few. Most of them imitate grafting or rigid replication of the overall structure of the studio, lack attention to the social and cultural fields generated by the studio leadership model, lack the relevance practice of discussing the construction of the studio from the growth situation and key events of individual teachers in the studio group, and even lack the construction analysis of the leadership model of master teachers.

At the same time, under the background of the changing concept of education, curriculum decentralization and the rapid development of information technology, related research on "grassroots" orientation has emerged. Grassroots usually means unofficial, folk or native. The characteristics of "grassroots" are reflected in both formal school education and non-formal education. The voice and influence of "grassroots strength" and "grassroots feelings" are gradually expanding.

2 Literature Review

Since the 1980s, "distributed leadership" has

gradually become a hot topic of international research and frequently appeared in the practice of educational reform around the world. However, due to the differences in educational background and development status among countries, the research of distributed leadership is also at different stages, so different research trends have been formed. From the statistics of the contribution value of the literature and writing volume, the United States, the United Kingdom, Australia and other countries have played a cutting-edge leading role in the relevant research of distributed leadership. Harris (2008) puts forward a "conceptual perspective, practical perspective and empirical perspective" of distributed leadership theory, which is very revealing. To a certain extent, the existing research on distributed leadership adopts one or more of the perspectives, which responds to the questions of "what is distributed leadership", "how to distribute it" and "what is the effect of distribution".

Firstly, based on the conceptual perspective, some scholars pay attention to the "quantity" of leaders, and put forward the underlying concepts such as "leader increment" and "multidimensional leader". Gibb (1954) and Carson (2007) believe that distributed leadership is a collective leadership mode with multiple leadership roles. Some scholars define distributed leadership by deeply describing the organization's "dynamic interaction". Bennett (2003) emphasizes that distributed leadership has the leadership characteristics of "open boundaries, network interaction, and wide distribution of knowledge"; Spillane (2006) believes that distributed leadership is a leadership practice formed in the interaction between leaders, followers and situations. Some scholars also tend to gradually integrate the "quantitative view" and "dynamic interaction view" of distributed leadership. Mintzberg (2006) considers that distributed leadership is the dynamic sharing of leadership roles among different members of the organization according to changes in their capabilities and environment. Spillane (2006) also deems that, with the passage of time, the roles of leaders and followers will change according to the changing situation, and each member of the organization has the opportunity to become the leader of the organization at a certain task or at some point. From an integrated perspective, distributed leadership is a collective leadership mode in which multiple members of an

organization dynamically share leadership roles according to their own capabilities and environmental conditions, thus realizing "leadership sharing and leadership radiation".

Secondly, based on the practical perspective, some scholars have distinguished different forms of distributed leadership from the internal operation process on the basis of a large number of case studies. Gronn(2002) believes that distributed leadership behavior can be distinguished by "two kinds of three-dimensional" behavior, namely, "incremental leadership behavior" formed by passive state and "cooperative leadership behavior" formed by active state. Leithwood (2006) from the perspective of unity of opposites, found that distributed leadership behavior can be divided into four forms "planful alignment, spontaneous alignment, spontaneous misalignment and anarchic misalignment" through the comparative analysis of short-term and medium- and long-term research results. Spillane's team(2006) propose that there are three forms of distributions in leadership practice: collaborated distribution, collective distribution and coordinated distribution. These analytical frameworks have no advantages or disadvantages in the concrete practice forms of distributed leadership, and all reveal the structural characteristics of distributed leadership practice. Each analytical framework is based on distributed leadership practice in specific school situations, and it is also expected to be applied to the research of different educational situations.

Thirdly, based on the empirical perspective, some scholars take root in practice and carry out empirical analysis on the specific operation of distributed leadership in different schools. Official institutions have gradually promoted the empirical research of large-scale samples. The National Council of State Education has integrated distributed leadership into the "State Education Leadership Action Project" funded by the Wallace Fund. The British National School Leadership Institute has held a large-scale seminar on distributed leadership, and includes the theme of distributed leadership in the training program for principals. Some scholars hold a "neutral" attitude to empirical analyze of distributed leadership in practice, clarify the theoretical misunderstanding of distributed leadership, and analyze the advantages and disadvantages in the concrete operation process. It is proved that distributed leadership is a differential

distribution in the context, and there is no complete nesting of distributed leadership models.

Western scholars' research on distributed leadership has gone through the preliminary construction of terminology, the gradual maturity of theories, the integration of concepts, and the mutual verification between theory and practice. The research on distributed leadership has also matured. In contrast, domestic researchers' on distributed leadership are mostly at the preliminary stage of theoretical translation and conceptual localization construction, while the empirical research is relatively scarce. However, domestic scholars (Feng, 2012; Lu, 2012; Zheng, 2015; Gan, 2017, etc.) have translated, summarized and defined the theory of distributed leadership, and have gradually put forward the localization of distributed leadership. That is, how to combine the theory of distributed leadership with the concrete reality of China's current educational leadership and the excellent educational management experience in China.

In a word, scholars at home and abroad have converged to emphasize that distributed leadership is a collective leadership mechanism based on situation and interaction. Distributed leadership practices born within the education system should pay attention to stimulating the leadership potential of organization members, and forming networked leadership energy, and enabling organizations to build a radiation mechanism for leadership under the context of specific educational situations.

3 Research method

This study adopts the method of case study. The selected research object is based on the existing influence of the case Master Studio and the real contact between the researcher and the case. The case Master Studio is both unofficial and rooted at the grassroots level, which has the characteristics of "grassroots". From the perspective of construction subject, the case studio is initiated by grassroots educators as grassroots forces; from the perspective of practical content, the case studio attaches importance to the life experience and educational experience of grassroots teachers, takes root to solve the problems arising in the real teaching situation, and gives importance to the real effectiveness of teachers' professional development and growth;

from the perspective of development trend, the construction of case studio is usually suitable for specific situations and exists in a small-scale pattern, due to the openness and inclusiveness and other characteristics of its subject and content, it has more tenacious and continuous vitality, and the possibility of scale expansion and energy radiation. Compared with the abstract interpretation of distributed leadership theory, it is fortunate to enter the field of educational leadership. Facing the real distributed leadership practice in education management is the research expectation of every researcher. With the development of the research, the distributed leadership of Grassroots Master Teacher Studio gradually rationalizes in the expression of researchers.

Different from the conventional Master Teacher Studio, County A, to which the case studio belongs, is a mountainous county under the jurisdiction of J Province in the central region of China, which is a national poverty-stricken county, and is also the key assistance object of the national "Educational Poverty Alleviation Policy". At the beginning, the case studio was named after the name of the sponsor. However, it's not under the jurisdiction of the Teaching and Research Section. It's a self-organized teacher studio with the characteristics of "grassroots", independent of the Teaching and Research Section. Since its establishment in January, 2012, the case studio has gradually fixed the training period for two years. At present, it has carried out four training activities, with a total of 48 participants according to the statistics. On the basis of open interviews involving the research field, the researcher conducted a questionnaire survey on "the acquisition of leadership opportunities and the development of leadership" for whole members in order to further understand the operation mode and the development of the members of the studio. Teacher L1, the founder of the studio, was selected as the main interview object. Teacher L2, L3, L4 and L5, four tutors from the third and fourth periods of the studio, were selected as secondary interviewees, and conducted semi-structured interviews and focus group interviews.

4 Internal and External Support System of Grassroots Master Studio

The case teacher studio, as a grassroots studio initiated by grassroots educators and gradually

scaled up to attract basic educators. It's established on the basis of extensive investigation of county and township teachers based on the experience sharing of Jiangsu and Zhejiang master teachers and the process of seeking professional development, through the formation of a personal vision and common vision for the members of the studio. The process analysis of the formulation of personal planning and joint planning and the realization of personal development and shared development shows that this process is suitable for most scholars who regard master teacher studios as community.

Because of the particularity of case selection, it has become a constructable trend to combine and analyze the support system of distributed leadership in grassroots master studios by integrating internal and external influences.

4.1 Internal support: hematopoietic independent development

Maslow.A.H. mentioned that "people have the need of self-realization". Teacher L1 mentioned "In fact, teachers in villages and towns are very eager to make progress and improve themselves. I started teaching in the countryside myself, and I felt deeply that I didn't have the opportunity to study and only listened to some classes from our school. Later, I felt that I still needed to go outside in order to have a higher level of promotion. Then I went all the way from rural school to town's central school, urban school, and later to the County Teaching and Research Section. My own experience and feelings are very profound." In fact, rural teachers have an urgent desire for self-improvement and all of them are eager to obtain opportunities to improve and develop their multiple abilities on a higher platform. The goal vision of the case studio is gradually aggregated into a collective development vision driven by the vision of individual teachers. The first step to implement the vision is to form a text and practice-oriented development plan based. The individual growth planning of studio members and the overall development planning based on the consultative culture are converged into the common goals of the studio development to a certain extent, and the establishment of the common goals also responds to the common vision of the studio.

Since the four phases of the case studio, each issue has formulated a detailed overall development plan for the studio and a special membership growth

manual from the third issue. By comparing the research regulations of phases 1 and 3, it's found that in the later stage of studio training, more and more emphasis is placed on the effective formulation of individual development plans of members, and the explicit development path of studio members is recorded in the form of a growth record book. Teacher L3 said excitedly about the impact of formulating personal development plans, "I used to think that I could relax at the age of 40s. But after joining the studio, I got a new motivation to learn. I make monthly and semester-long development plan for myself, and studio members regularly check each other's achievement of goals. I try to write something every day. Now I really understand that 'if you understand the historical mission of the teaching profession, you will never relax for a moment!' Although sometimes I still feel very tired, I'm really happy!" In the interview of the follow-up focus group, it was found that most teachers who joined the studio and formulated clear personal development plans quickly improved their professional performance and achieved professional development driven by the dual motivation of overall studio planning and individual planning of members. Among them, rural teachers quickly march from village primary schools to urban famous and excellent schools; urban teachers rapidly realized the transformation from teaching teachers to dual-functional teachers in teaching and administration, and grew into provincial and municipal backbone teachers and discipline leaders. In the questionnaire feedback from the whole staff, it was found that after joining the studio, the multi-faceted ability of the members have been greatly improved, the most significant of which are the ability of education and teaching, educational leadership, educational research and teaching reflection.

Teacher L1, the host, as the energy source and core existence in the construction and operation of the case master studio, is a leader good at hematopoietic. Several of the teachers interviewed said excitedly when talking about the Teacher L1, "We are not confused if we are led by the sun." "She uses lots of positive energy to influence us. We are full of energetic when start teaching and research." "Leader L1 is really like a sun with energy, who conveys all aspects of positive energy." The members used the words "sun", "energy" and "radiation" to describe the role played by Teacher L1 in the process of the

establishment and development of the studio. They all agreed that Teacher L1 makes the members of the studio have strong cohesion and a strong sense of belonging because of with her infectious educational feelings, professional educational practices and shared leadership concepts. Meanwhile, Teacher L1 inspired by the words and practical actions of the studio members and was full of confidence in the value and development prospects of creating the studio. "They said I'm like the sun, actually I was greatly promoted from their words, which made me blood boil and excited. Our studio members are very motivated together. Each member of the recent two issues has greatly capacity developed in many aspects of our studio activities. The development of the whole staff of our studio lies in professional self-confidence, and we all have found self-confidence in our profession. " During the Focus Group interview, many members took Teacher L1 as an example, and through gathering energy and dispersing energy gradually played the role of "Little Sun" in the studio and their schools, promoting their professional development, while diffusing leadership energy and exerting professional influence in a larger field.

4.2 External support: resources with limited utility

County A, where the case studio is located, is a typical county with weak development of basic education. With the acceleration of urbanization and the serious loss of teachers in rural schools, the education system has trapped in a vicious circle of miniaturization of rural schools and overloading of urban schools. In response to the policy of "Educational Poverty Alleviation" at national level, the leading team at the county level realized that "education must be revitalized before county revitalized". In recent years, policy documents such as "The Implementation Opinions on Development of Big Education' in A County" and "The Nth Five-Year Plan for the Development of Education in County A" have been promulgated successively, which have raised "poor counties should also run big education, and poor counties can also run big education". Based on opportunity of education development, case studio as a collection of grassroots forces in the county, has gradually received strongly support from provincial, municipal and county education bureaus and local schools in the process of development.

During the construction period, Teacher L1, the initiator, have been given many opportunities to attend training in provinces and cities to stimulate her leadership potential in training and learning. Referring to the idea of sprouting a master teacher studio, Teacher L1 recalled the original source of motivation." In 2010, I participated in the training activities of rural backbone teachers organized by the Provincial Department of Education. At that time, an expert from Zhejiang Province was invited to talk about how her studio led teachers to grow professionally together. She is just like a beam of light, shining into my heart, making me ripple and blood surging. I found the answer and set up a studio. " "At the beginning, we did it quietly and in a low-key manner. We all paid for our own lots of teaching and research activities and dinners." "The funds for many activities in our studio are self-raised, which is different from that Jiangsu, Zhejiang and Shanghai Education Bureau will specially allocate financing support for the start-up funds and work funds of master teacher studios."

However, under the guidance of the policy of "Educational Poverty Alleviation" at the national level and "Three Excellent Assistance" at the county level, the case studio has become the pioneer of the teacher studio in county, and was immediately encouraged and supported by the leaders of the municipal and county education bureaus and teaching and research sections. Since its establishment in 2012, it has undertaken the task of "Network training of master teachers for remote training in primary and secondary schools in the whole province". It has successfully applied for a number of municipal and provincial projects, and has been selected as expert team of the activity discipline of "One Teacher, One Excellent Class; One Lesson, One Famous Teacher" in 2018. The Teaching and Research Section of County A also has set up a column of "Window of Teaching and Research" for the members, and published special issue of "Practice and Exploration of Primary School Mathematics Studio" and "Practice and Exploration of Primary School Mathematics Studio in County A for Teaching and Research Section", etc. The series of research results of the studio have been affirmed by the relevant education departments.

It's undeniable that compared with the master teacher studios established in economically developed areas, the characteristics of "grassroots" development

of the case studio are more obvious, and there are shortcomings in the financial support. But in the process of development, a certain amount of funding support was also obtained through project application and team selection, such as the development fund of 30000 yuan from the Central Audio-visual Education Center in 2016, and the project funding of 14000 yuan from the Education Department of J Province, which was quickly internalized into the training and development funds of studio members.

The case studio is based on the goal and vision of promoting the balanced development of urban and rural teachers in the county. The coverage of urban and rural schools will be taken into account when selecting tutors and trainees. Due to the rugged terrain of County, the main 'lesson study' activities are not in a fixed place, generally which are conducted in member's school. Therefore, all villages, towns and urban primary schools have become mobile places for the studio activities. The leaders of the docking school are very supportive if carry out the lesson study activities, will call on school teachers to participate in it, and actively recommend novice teachers with development potential to join the studio, which provides opportunity between studio members and teachers of docking schools to learn from each other and grow together. On the one hand, the influence of the studio is increasing, on the other hand, the leaders of each school pay more attention to the invited members of the studio. The school leaders incline to the studio members in teaching and research guidance and training opportunities, so that studio members can get rapid exercise in studio activities, and also obtain the ability test of their own schools. The increase of research guidance and training opportunities of teachers also makes the personal leadership ability improved simultaneously. The villages, towns and urban schools affiliated to the studio members not only provide venue support for the effective development of studio activities, but also provide opportunity support for the rapid development of studio members.

5 Distributed Network Connectivity and Energy Radiation

Distributed leadership is a gradual development of leadership mode. In the process of forming distributed leadership in the studio of grassroots master teacher

studio, the personal leadership style of studio Teacher L1 will directly affect the role building of herself and studio members. At the early stage of studio, Teacher L1 conducted extensive research on township teachers, shuttled through various township primary schools in the county, carefully observed and recorded teachers' classroom teaching, participated in class discussion and evaluation of teachers, demonstrated classroom of new curriculum reform, truly felt rural teachers' urgent desire for growth, sincerely invited teachers with development potential to join the studio, and consciously tapped leadership potential of studio members, constantly created opportunities to improve the leadership ability to members, and realized sharing of studio leadership through gradual empowerment.

5.1 Construction of distributed team from "uniline" to "network"

The first phase of the studio activity, from January 2012 to June 2014, which is a mode exploration stage. The first phase has attracted and absorbed 15 members, with a ratio of 6:9 between urban and rural areas, forming a team training mode of "drive many people with one person". As Teacher L1 said, "At the first phase I am also in the process of groping. At the beginning, I felt that the studio should not only have outstanding backbone leaders in the city, but also have small teachers in the village; even not only teachers, but also leaders and middle-level cadres, etc. "Through interview learned that the leadership of the studio concentrated in the hands of Teacher L1, who has the teaching and research staff of the administrative teaching and research section and grass-roots studio host double identity. Some of the members absorbed by the studio are both subject teaching teachers and administration. However, some members have limited energy and failed to achieve the goal of full development in the later period of training. Teacher L1 self-analysis thinks , "There are too many people in the first phase. Although many teachers have been growing, not enough. Many of them are administrative staff. The affairs in the school are very busy, and some of them fail to meet the requirements of the development planning of the studio. Therefore, I reflected that I can't let the harvest of everyone who joined the studio weaken. We should grow up together, fulfill the requirements of development planning together, and try our best to

improve ourselves."

The second phase of the studio activity, from September 2014 to September 2016, belongs to the stage of mode adjustment. On the basis of the experience and lessons, the second phase reduced the number of member and recruited 8 trainees with a ratio of 4:4 between urban and rural areas, forming a "1 + 8" team training mode. Teacher L1 said, "The effect of this period is very good, and the overall improvement is very rapid." At the end of the training, the 8 trainees achieved rapid professional development as a whole, and their ability of "being independent" in the studio training activities was obviously enhanced.

The third phase of the studio activity, from September 2016 to September 2018, belongs to the stage of absorption and innovation. The eight members absorbed in the second phase have achieved rapid growth as a whole. In order to improve the energy radiation range of the teacher studio, Teacher L1 mentioned, "I invited the excellent and fast-growing teachers in previous two periods to be tutors, so that they can see which rookie teacher and potential teacher can absorb him as an apprentice to help him grow rapidly, so that the apprentice faces the school and leads the school teachers." Returning to the studio's goal of benefiting more teachers, Teacher L1 used the tutor selection system of the Music Talent Show for reference to select two and four excellent members from the first and second periods to form a tutor group. "Looking at 'The Voice of China' in 2014 was very hot. I liked the tutor's decision-making. Then I invited the excellent and fast-growing teachers from the first two periods as tutors, so that they can see which rookie teacher and potential teacher can absorb him as an apprentice and let him grow up quickly. In this way, the apprentice faces the school and leads the school's teachers." The studio began to adopt the method of 'tutor assessment-take leading more with more' to help the rapid growth of its members. It attracted 10 trainees for the whole county, and the ratio of urban and rural teachers was 5:5, forming a "1+6+10" hierarchical leadership mode, and initially realizing the hierarchical distribution of the number of leaders.

The fourth phase of the studio activity, from September 2018 to September 2020, belongs to the mode construction stage. On the basis of the success of the third stage of hierarchical leadership

training mode of 'tutor assessment-leading more with more', the fourth phase selected 3 and 6 outstanding member from the first and third stages respectively, and absorbed 14 trainees at the same time. In the selection of trainees, from the original of the leader recommendation to combination of leader recommendation, member self-recommendation and school recommendation.

The way of members' self-recommendation and school recommendation broadens the channels for teachers to enter the master teacher studio, which makes it have more inclusive in the county. In the fourth phase, the urban-rural ratio of studio members is 6:8, forming a "1+9+14" shared leadership team training mode. Teacher L1 join the tutor group to lead the development of students trainees.

The operation mode of the studio has gradually been fixed as the distributed leadership team training mode of 'tutor assessment-leading more with more'. After four stages of training, a relatively mature "1 + N + X" distributed leadership teacher training mode has been formed, which has realized the increase in the number of leaders. To a certain extent, the mobility of leadership opportunities in case studio is realized by unfixed personnel in each stage of the tutor group. The leaders gradually realize the transition from individual leadership to group leadership from 'fixed' to 'mobile', which ensures the equality of leadership opportunities for fast-growing members.

5.2 Network energy radiation from "unin-uclear" to "multinuclear"

The development of case grassroots studio is a dynamic process of group co-construction. From the empirical perspective, the energy radiation pattern of distributed leadership in 'grassroots' master teacher studio is a network connection. In the process of formation, Teacher L1 and tutor group members gradually realize the sharing of leadership through continuous empowerment. But distributed leadership not only refers to the transfer and sharing of leadership power, but also points to how the receiver of leadership power uses leadership and how to realize the secondary radiation of leadership, that is, empowerment is to increase energy, and how to realize the radiation of leadership energy?

The leadership potential of studio members is a huge resource in the process of the establishment

and development of the studio. In the process of expanding the organizational scale and influence of the studio, on the one hand, Teacher L1 empowers the fast-growing members; on the other hand, the members accept leadership through leadership potential, and gradually form a distributed tutor group, so that leadership can be appropriately distributed among the tutor members.. Giddens, the representative of structured theory, also emphasizes the establishment of structured relationship network in organizations. In the network connection, the radiation of leadership energy has two characteristics: field and process. From the perspective of field, the radiation of leadership energy is mainly reflected in two spatial dimensions: one is that the team leaders radiate the leadership within studio, which is the process of leadership energy visualization; the other is that team members radiate leadership outside the studio, which is the process of leadership energy externalization.

As Teacher L2 mentioned in his personal growth history, "My growth confirms the process of growing from an ordinary teacher to a provincial backbone teacher, so I have a sense of mission. I feel that if I occupy this position, I have to do something in it. I want to consider the growth of our studio members, the development of my school, and so on. I also began to learn from the studio model of Teacher L1, and led the teachers of my school to carry out the school-based research and training of 'Seeking fragrance teaching and research.'"

According to the survey data of "Whether or not they intend to set up a personal studio based on this studio", it is found that 38.3% of them have set up individual master teacher studio based on the case grassroots studio; 27 people, accounting for 57.45% intend to set up; only 2 people, accounting for 4.26% have no intention to establish. This shows that the development mode of case studio has been relatively mature, and has certain degree of reference and replicability in county context and situation. As the interviewed Teacher L4 said, "Working hard radiation is the purpose of the studio, I also actively participate in teaching and research in school, leading the teaching and research classes. I know that only by learning by doing and thinking in learning can I constantly improve my level and further enhance my influence."

In the multi-stage development of studio, most

members of the studio gradually consciously assume the leadership role and responsibility, and radiate the professional influence. In the process of interview, we also found that studio members drawing lessons from the development model of case studio, have successfully set up individual studio based on their own schools, which makes the members of the studio change from the role of ordinary teachers to school teaching and research leaders, thus has an impact on the school at the broader level.

According to further interviews, the acquisition of leadership opportunities for members in the studio is fluid, but doesn't mean that the formation of mentor groups is arbitrary. The tutor group members enlighten the studio trainees in professional spirit and professional knowledge, so as to build a harmonious research atmosphere and promote the rapid growth of studio members. At the same time, the rapid growth of trainees and the enhancement of leadership consciousness and ability also feedback the effective radiation of the leadership of the tutor group. In practice, Teacher L5 mentioned, "Through studying in studio, as the director of the Academic Affairs Office of the school, I have also deeply influenced a large number of young teachers in our school. We discuss teaching during classes and after lunch. In school, we also set up a mentoring relationship to help more young teachers grow up faster. " In the explicit process of leadership radiation, studio members consciously and unconsciously highlight individual influence, through the radiation of influence to achieve leadership radiation.

From the perspective of endogenous development, based on the common development vision and negotiation culture, the members of the studio formulated clear personal development plan and effectively aggregated into the overall development plan. Members achieve overall professional development in shared professional development activities. The case studio was generated in the form of community organization. The host consciously excavates the leadership potential of the studio members and gradually empowered to some members, which makes the acquisition of leadership opportunities shared and mobile. The studio has gradually expanded from one leader to multiple leaders, realizing the transformation from individual leadership to group leadership, and the scale of group leadership was benignly expanded.

From the perspective of exogenous development, the members of the case grassroots studio consciously or unconsciously play their professional influence in the primary schools of the county, and gradually become the main force and leadership of the school in teaching and research activities. Some members of the studio set up their own school's personal studio based on the case studio, and realized the transformation from one to the more than one studio in the county which presented "A hundred flowers blooming and spring full garden" derivative scene.

6 Discussion and Conclusion

The formation of distributed leadership is not achieved overnight, so the research on the generation and energy radiation of distributed leadership in master teacher studio is also a process of continuous exploration and practical verification. As a "grassroots" case, the generation and energy radiation of studio distributed leadership is based on the generation and expansion of studio community, the empowerment and differentiation of studio leaders, the stimulation and radiation of studio members' leadership, and gradually formed under the influence of internal and external linkage.

The characteristics presented in the operation process of the case studio are in line with the theory and practice that distributed leadership becomes global sharing. The formation of distributed leadership in case studio is not embedded with leading theory, localized practice with distributed leadership characteristics gradually formed spontaneously during the process of multi-stage studio activities. To a certain extent, the organic integration of western distributed leadership theory and local grassroots master teacher studio practice has been realized.

In the formation process of distributed leadership in case studio, the radiation of leadership energy exists as the core feature of distributed leadership. However, how to find a balance between radiation and concentration of leadership, special attention needs to be paid to the coupling and fission of case studio and sub-studios in the subsequent development. Actually, in the past two or three years, a large number of sub-studios derived from county A will operate in the county schools in what way, and to what extent they will have an impact on case studios and schools, which is also a problem that researchers

will continue to pay attention to and study. In a word, the research on distributed leadership generation and energy radiation in master teacher studio is a research process that has been on the way all the time. Only by participating in practice, can we do better research in practice, and research can better point to further practice.

The limitations of this study are obvious. First of all, although the analysis and interpretation of the case from the perspective of distributed leadership is not based on the researcher's imagination, but there is a lack of confirmatory research support in the existing research literature. Secondly, the case study is based on typical regional patterns and implies the emotional bias of the researchers, so it is not universal.

In the existing research, whether distributed leadership or master teacher studio are not brand-new concepts. However, the fusion interpretation of distributed leadership theory and the practice of master teacher studios in the county is not only the theoretical interpretation that researchers seek after stepping into the real practice field of case studios, but also the localized distributed construction attempt of studio members based on the context of the county. Therefore, the analysis of the distributed construction pattern of the case master teacher studio is not only a supplement to the related research, but also a new attempt by researchers to record the practice field and start the research life with words.

Disclosure statement

No potential conflict of interest was reported by the author.

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